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("electronic ink" OR "electric ink" OR handwriti

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Universal symbolic handwriting recognition system

FC Carman - US Patent 5,454,046, 1995 - Google Patents

... **TREE NODE** 386 CREATE AND VISIT DOWN SEARCH **TREE NODE** 388 ... 410 PERFORM  
PARSER-LEVEL RECOGNITION 428 416 WORD CONFIRMATION 430 420 ... 5,454,046 10 20  
UNIVERSAL SYMBOLIC HANDWRITING RECOGNITION SYSTEM TECHNICAL FIELD The ...

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Incremental system for real time digital ink analysis

S Raghupathy, MM Shilman, Z Wei ... - US Patent App. 10/..., 2002 - Google Patents

... O5 C0 Mark Changed **Nodes** in **Snapshot** as Parser Dirty Appropriately Rewrite Doc **Tree** Based  
on ... follow these instruc- tions may cause **recognition** errors or other errors when the **electronic ink**  
is presented to an associated **handwriting recognition** system, thereby ...

Cited by 1 - Related articles - All 3 versions

Finger mouse and gesture recognition system as a new human computer interface

BK Ko... - Computers &amp; Graphics, 1997 - Elsevier

... group at IBM constructed a spreadsheet application that combines gesture and **handwriting** [4].  
Buxton's ... Figure 9 shows a decision **tree** for the set of gestures of our example ... Eager **recognition**  
refers to 4. FINGER DRAW-AN EXAMPLE GESTURE-BASED APPLICATION FDraw ...

Cited by 24 - Related articles - All 2 versions

Incremental system for real time digital ink analysis

S Raghupathy, MM Shilman, Z Wei... - US Patent App. ..., 2002 - freepatentsonline.com

... and methods according to the invention may relate to an overall **electronic ink** processing system ...  
Similarly, if the parser engine 1308 is a **handwriting recognition** system 310 , the output may ... As  
noted above, however, the user 1300 may change the document **tree** data structure ...

Cached

[PDF] The thesis of Ching-Wei Chen is approved.

E Chang... - 2001 - Citeseer

... multiple letters, and groups of several words, to be treated as one unit for **handwriting**  
**recognition**. ... previously completed strokes, and uses its proprietary **recognition** engine to decide  
what was written. ... Figure 6 provides a **snapshot** of PenOffice in action. ...

Related articles - View as HTML - All 3 versions

[\[PDF\]](#) from psu.eduEvolutionary learning of modular neural networks with genetic programming

SE Cho... - Applied Intelligence, 1998 - Springer

... 5(b)). • Mutation: Mutation changes each **tree node** to a new **node** in proportion to the mutation  
rate. ... The network is constructed as  $100 \times 20 \times 10$ , where the number of hidden **nodes**, 20, has  
been ... Workshop Frontiers in **Handwriting Recognition**, Montreal, Canada, 1990, pp. ...

Cited by 38 - Related articles - All 6 versions

[\[PDF\]](#) from yonsei.ac.krInk divider and associated application program interface

S Dodge, A Gounares, AJ Goldberg... - US Patent App. 10/..., 2003 - Google Patents

... Classification Analysis 314 Annotation Drawings /306 Writing Normalization /308 **Handwriting**  
**Recognition** 310 Lines ... faces where, for example, users can input and interact with **electronic ink**  
on a ... for ease of use, compatibility, making possible improved **handwriting** rec-ognition ...

Cited by 5 - Related articles - All 3 versions

Recognition of handwritten similar Chinese characters by neural networks

HC Fu... - ... Networks for Signal Processing [1996] VI ... , 1996 - ieeexplore.ieee.org

... output 01 (denoted as "N"), if the D-**node** outputs is lower than Thd, and the S-**node** output is ...  
Figure 7: The decision **tree** in the MUXNET. ... classifier **recognition** systems, in the proceedings  
of the fourth inter- national workshop on frontiers in **handwriting recognition** (IWFHR-IV ...

Cited by 2 - Related articles - All 2 versions

[\[PDF\]](#) from psu.eduData clustering: a review

AK Jain, MN Murty... - ACM computing surveys (CSUR), 1999 - portal.acm.org

... an increasing in- terest in the use of clustering methods in pattern **recognition** [Anderberg 1973 ...  
of vari- ous clustering algorithms for construct- ing the minimal spanning **tree** and the ... Michalski  
and Stepp 1983] which are represented as trees, where the parent **node** represents a ...

Cited by 5150 - Related articles - All 182 versions

Ink divider and associated application program interface

S Dodge, A Gounares, AJ Goldberg... - US Patent App. ..., 2003 - freepatentsonline.com

... and methods according to examples of this invention may be used with pen-based computing  
systems that accept and process **electronic ink** and ink ... 3 ), and the other is a **recognition** engine  
408 (which may conduct, for example, **handwriting recognition** analysis 310 and/or ...

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Results 1 - 10 of about 362. (0.03 sec)

## [PDF] Off-line Omni-style Handwriting Arabic Character Recognition System Based on Wavelet Compression

[PDF] from psu.edu

AA Aburas... - Arab Research Institute in Sciences & ... 1994 - Citeseer  
 ... The **tree** is known as a filter bank as depicted in Fig. 2 At each level, the signal is decomposed into low and high frequencies. ... Page 5. Off-line Omni-style Handwriting Arabic Character Recognition System Based on Wavelet Compression 127 FIG. ...

Cited by 6 - Related articles - View as HTML - All 4 versions

## Reduction of non deterministic automata for hidden Markov model based pattern recognition applications

[PDF] from psu.edu

F Maire, F Wathe... - AI 2003. Advances in Artificial Intelligence, 2003 - Springer  
 ... Most on-line cursive **handwriting recognition** systems use a lexical constraint to help improve the ... in storage can be obtained simply by using a trie (a well known **tree**-like data ... have worked on similar problems with Finite State Automata (FSA) for Automatic Speech **Recognition**. ...

Cited by 3 - Related articles - SL Direct - All 16 versions

## Distance features for neural network-based recognition of handwritten characters

[PDF] from jbu.ac.kr

IS Oh... - ... Journal on Document Analysis and Recognition, 1998 - Springer  
 ... From the **tree** structures, character models for each class are constructed so that they can be ... Since a neural network architecture requires a fixed number of input **nodes**, the numerical ... 1. The evaluation is performed in the specific domain of **handwriting recognition** by the neural ...

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## Incremental system for real time digital ink analysis

S Raghupathy, MM Shilman, Z Wei... - US Patent App. 10/ ... , 2002 - Google Patents  
 ... O5 CO Mark Changed **Nodes** in Snapshot as Parser Dirty Appropriately Rewrite Doc **Tree** Based on ... follow these instructions may cause **recognition** errors or other errors when the **electronic ink** is presented to an associated **handwriting recognition** system, thereby ...

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## On the choice of training set, architecture and combination rule of multiple mlp classifiers for multiresolution recognition of handwritten characters

[PDF] from psu.edu

U Bhattacharya, S Vajda, A Mallick, BB Chaudhuri... - 2004 - computer.org  
 ... A wavelet transform is usually implemented by a binary **tree** of filters. ... Proceedings of the 9th Int'l Workshop on Frontiers in **Handwriting Recognition** (IWFHR-9 2004) 0-7695-2187-8/04 \$20.00 ... where  $w_{jk}(t)$  is the weight connecting a hidden **node**  $j$  with an output **node**  $k$  while  $w_{ij}(t)$  ...

Cited by 10 - Related articles - All 9 versions

## Method and apparatus for an improved language recognition system

H Aishawi - US Patent 5,870,706, 1999 - Google Patents  
 ... Probabilities are assigned as the sum of probabilities of all **tree** derivations for which words in the candidate string appear as fringe **nodes**. ... methods are applicable to all modalities of language **recognition**, including, without limitation, **handwriting recognition** and optical char ...

Cited by 38 - Related articles - All 2 versions

## Incremental system for real time digital ink analysis

S Raghupathy, MM Shilman, Z Wei... - US Patent App. ..., 2002 - freepatentsonline.com  
 ... [0042] Systems and methods according to the invention may relate to an overall **electronic ink** processing system ... and the other is a **recognition** engine 1308 (which may conduct, for example, **handwriting recognition** analysis 310 and/or annotation **recognition** analysis 314 ...

Cached

## Electronic ink processing

J Wakeam, R Duncan, B Dresevic... - US Patent App. 10/ ... , 2003 - Google Patents  
 ... 24,2005 (54) ELECTRONIC INK PROCESSING (75) Inventors: Jamie Wakeam, Redmond, WA (US); Richard Duncan, Kirkland, WA (US); Bodin Dresevic, Bellevue, WA (US); Kerry Sutanto, Kirkland, WA (US); Sashi Raghupathy, Redmond, WA (US); Timothy H. Kannapel ...

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## Ink divider and associated application program interface

S Dodge, A Gounares, AJ Goldberg... - US Patent App. 10/ ... , 2003 - Google Patents  
 ... Classification Analysis 314 Annotation Drawings /306 Writing Normalization /308 **Handwriting Recognition** 310 Lines ... faces where, for example, users can input and interact with **electronic ink** on a ... for ease of use, compatibility, making possible improved **handwriting** recognition ...

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[PDF] A rapidly learning interpretation system for on-line cursive **handwriting**

[PDF] from psu.edu

G Qian... - 1998 - Citeseer

... The analysis employs pruning of a **tree** based lexicon. ... boundary of high and middle zones that we have found to be important for both **handwriting recognition** and learning. ... The idea of describing **handwriting** as a sequence of feature vectors is widely used; see, for example ...

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